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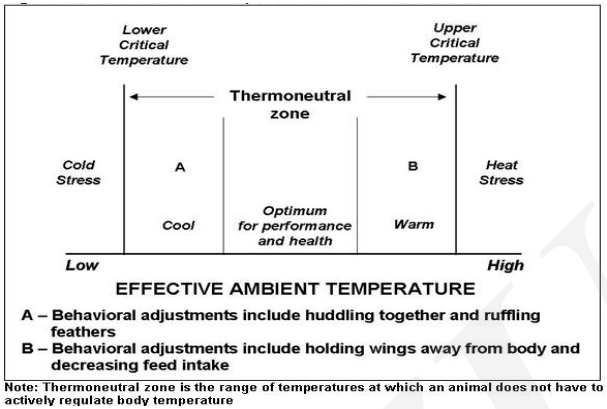
Magnolol pretreatment attenuates heat stress-induced IEC-6 cell injury

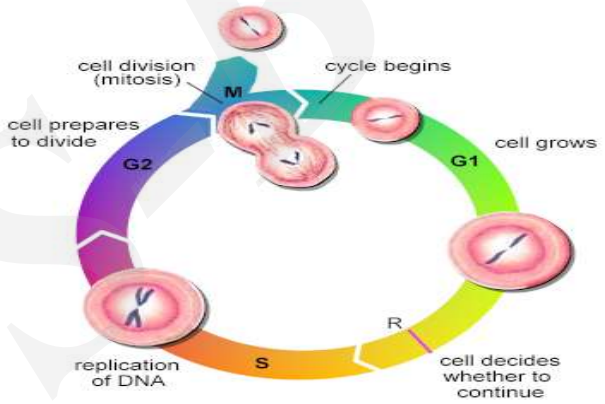
Key words: **Cell-cycle arrest, cell injury, heat stress, IEC-6 cell lines, magnolol**

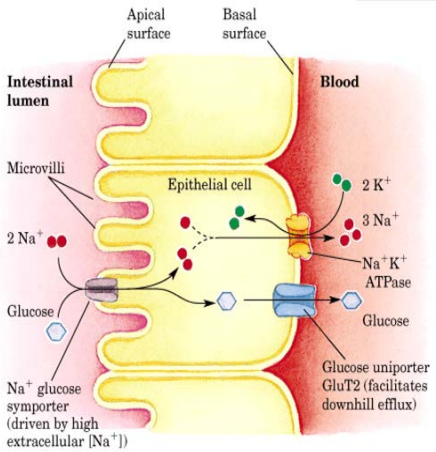
Research Summary

This review mainly focused on the pre-treatment of Magnolol alleviate IEC-6 cell injury after heat stress in the following aspects:



Note: Thermoneutral zone is the range of temperatures at which an animal does not have to actively regulate body temperature





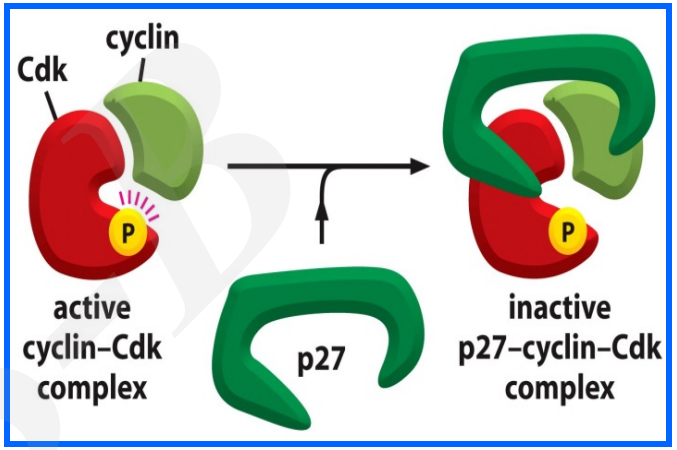
- **Heat stress induced rat intestine epithelial cells (IEC-6) injury.**
- **Heat stress caused IEC-6 cell cycle arrest in G1 phase.**
- **Magnolol promoted G1 phase cell cycle resumption after heat stress and remitted IEC-6 injury condition.**

Innovation points

- **Introduction** of the heat--stress impact on IEC-6 cell injury and Magnolol anti-heat stress effect.

- **Summary** of the most updated research progress about Magnolol and G1—phase cell--cycle arrest in cellular biology studies.

- **Emphasis** of the newly identified interplay among Magnolol remitted cell-cycle-arrest by regulating G1 phase genes and proteins expression.



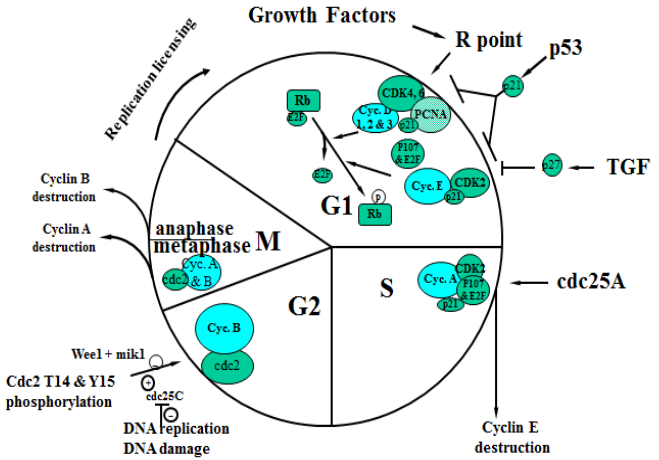


Figure 4

Innovation points

A series of comprehensive figures were generated to summarize the latest knowledge about Magnolol anti-heat stress effect.

Figure 1 | **Structure of Mag.**

Figure 2 | **Mag toxicity in IEC-6 cells by MTS cell proliferation assay.**

Figure 3 | **Comparing three effective concentrations of Mag by MTS cell proliferation assay.**

Figure 4 | **Mag pretreatment increased cell counts after HS by hemocytometer.**

Figure 5 | **LDH activity in IEC-6 cells.**

Figure 6 | **Mag-corrected cell-cycle progression in IEC-6 cells after HS.**

Figure 7 | **Mag increases IEC-6 cell division, based on EdU incorporation.**

Figure 8 | **Mag modulates levels of G1-phase cell-cycle genes in IEC-6 cells.**

Figure 9 | **Mag induces G1-phase cell-cycle restoration after HS.**